

IN THE CLAIMS:

1. (CURRENTLY AMENDED) A device comprising:

a flexible substrate having at least one ~~flat or~~ substantially flat surface; and

a at least one source of vibrational energy ~~that can be applied to said~~
attached to or in communication with at least one of the at least one substantially flat
surface to apply vibrational energy to the flexible substrate,

wherein the vibrational energy causes periodic motion in the flexible
substrate to cause the device to adhere to an exterior surface and the device is capable of
translational motion along ~~[[a]]~~ the exterior surface.

2. (ORIGINAL) The device of Claim 1, wherein the vibrational energy is
harmonic.

3. (CURRENTLY AMENDED) The device of Claim 2, wherein the
vibrational energy causes the flexible substrate to flex in a harmonic fashion.

4. (CURRENTLY AMENDED) The device of Claim 2, wherein at least one
of the at least one source of ~~harmonic vibration~~ vibrational energy imparts vibrations to
said substrate to cause said substrate to move in a translational fashion.

5. (CURRENTLY AMENDED) The device of Claim 1 ~~which can adhere to a~~
, wherein the exterior surface is other than horizontal.

6. (CURRENTLY AMENDED) The device of Claim 5, wherein the exterior
surface is vertical.

7. (CURRENTLY AMENDED) The device of Claim 5, wherein the exterior
surface is upside down.

8. (CURRENTLY AMENDED) The device of Claim 1, wherein a change in the frequency of the vibrational energy causes the direction of the motion of the device to change.

9. (CURRENTLY AMENDED) The device of Claim 1, wherein the vibrational energy is imparted to the substrate to cause the device to adhere to the surface flexible substrate has a point of asymmetry.

10. (CURRENTLY AMENDED) A device capable of translational motion comprising:

a flexible substrate having at least one ~~flat or~~ substantially flat surface; and

a at least one source of harmonic vibration attached to or in communication with said at least one of the at least one substantially flat surface to apply vibrational energy to the flexible substrate,

wherein the harmonic vibration causes periodic motion in the flexible substrate to cause the device to adhere to an exterior surface and the device is capable of translational motion along the exterior surface.

11. (CURRENTLY AMENDED) The device of Claim 10, wherein at least one of the at least one source of harmonic vibration imparts vibrations to said substrate to cause said substrate to move in a translational fashion.

12. (CURRENTLY AMENDED) The device of Claim 10, ~~which can adhere to~~ a wherein the exterior surface is other than horizontal.

13. (CURRENTLY AMENDED) The device of Claim 12, wherein the exterior surface is vertical.

14. (CURRENTLY AMENDED) The device of Claim 12, wherein the exterior surface is upside down.

15. (CURRENTLY AMENDED) The device of Claim 10, wherein at least one of the at least one source of harmonic vibration is attached to the flexible substrate.

16. (CURRENTLY AMENDED) A device comprising:

a flexible substrate or first surface[[:]] and

a at least one source of vibrational energy ~~that can be applied to said~~
attached to or in communication with the flexible substrate or first surface,

wherein vibrational energy is applied to the flexible substrate or first
surface to cause periodic motion in the flexible substrate or first surface and the device is
capable of translational motion along a second surface or through a fluid.

17. (ORIGINAL) The device of Claim 16, wherein the vibrational energy is harmonic.

18. (CURRENTLY AMENDED) The device of Claim 17, wherein the vibrational energy causes the substrate or surface to flex in a harmonic fashion.

19. (CURRENTLY AMENDED) The device of Claim 17, wherein at least one of the at least one source of ~~harmonic vibration~~ vibrational energy imparts vibrations to said substrate or first surface to cause said device to move in a translational fashion .

20. (CURRENTLY AMENDED) The device of Claim 16 ~~which can adhere to~~
a , wherein the second surface is other than horizontal.

21. (CURRENTLY AMENDED) The device of Claim 16, wherein a change in the frequency of the vibrational energy causes the direction of the motion of the device to change.

22. (CURRENTLY AMENDED) The device of Claim 1, 10, or 16 which also comprises an ~~antisymmetry~~ asymmetry element.

23. (CURRENTLY AMENDED) The device of Claim 22, wherein the ~~antisymmetry~~ asymmetry element comprises bristles, spines or spicules embedded in a flexible matrix, regular or irregular projections, fins, or a conformable mat.

24. (CURRENTLY AMENDED) The device of Claim 23, wherein the ~~antisymmetry~~ asymmetry element comprises bristles.

25. (CURRENTLY AMENDED) A method for imparting translational motion to an object on a first surface or in a fluid, the object comprising a flexible substrate having at least one substantially flat surface and a source of vibrational energy attached to or in communication with at least one of the at least one substantially flat surface to apply vibrational energy to the flexible substrate, said method comprising the steps of:

(a) vibrating the object to produce harmonic vibration; and

(b) coupling the vibration to the first surface or fluid in an asymmetric way to produce translational motion by the object.

26. (CURRENTLY AMENDED) A method for imparting translational motion to an object having a flexible substrate or a first surface and a source of vibrational energy on a second surface or in a fluid, said method comprising the steps of:

(a) applying vibrational energy to the object to produce harmonic vibrations in the flexible substrate or first surface; and

(b) coupling the vibrations to the second surface in an asymmetric way to produce translational motion by the object.

27. (ORIGINAL) The method of Claim 26, wherein a force in one direction during one part of the wave cycle is not counterbalanced by an equal and opposition force in the other direction.

28. (CURRENTLY AMENDED) The method of Claim 25 or 26, wherein an ~~antisymmetry~~ asymmetry element produces a net force in one direction when averaged over the entire vibratory cycle.

29. (NEW) The device of Claim 1, wherein the flexible substrate has first and second substantially parallel planar surfaces.

30. (NEW) The device of Claim 1, wherein the flexible substrate is circular, rectangular, oval, square, or hemispherical.

31. (NEW) The device of Claim 10, wherein the flexible substrate has first and second substantially parallel planar surfaces.

32. (NEW) The device of Claim 10, wherein the flexible substrate is circular, rectangular, oval, square, or hemispherical.

33. (NEW) The device of Claim 16, wherein the flexible substrate is circular, rectangular, oval, square, or hemispherical.

34. (NEW) The method of Claim 25, wherein the flexible substrate has first and second substantially parallel planar surfaces.